Servomechanisms Laboratory
Department of Electrical Engineering
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

M E M O R A N D U M

M-5001-3

To: TX-O Computer Users

From: Earle W. Pughe, Jr.

Subject: FLEXOWRITER CODE

Date: November 4, 1958

To program the TX-O flexowriter outputs, both typewritten and punched, it is necessary to know the flexowriter code. Attached are two sheets giving this code.

Memorandum M-5001-2, dated October 16, 1958, gave the words recognized by UT-3. The word "p6h" should read "---as specified by accumulator bits 2, 5, 8, 11, 14 and 17 and---". Please correct your copy.

Earle W. Pughe, Jr.
Earle W. Pughe, Jr.

Encl.

cc - Ad Hoc Committee on
     Experimental Computation

        Professors Reintjes, Brown, Shannon,
                    Fano, Rosenblith, Arden,
                    Fletcher, Susskind, and
                    Mr. Wesley Clark

W.N. Papian

EWP/flc

"FL" FLEXOWRITER CODE
Alphanumerical Sequence

Lower Case	Upper Case	Character 123456	Octal Value	Decimal Value	Lower Case	Upper Case	Character 123456	Octal Value	Decimal Value
a	A	000110	6	(6)	0	°	111110	76	(62)
b	B	110010	62	(50)	1	¹	010101	25	(21)
c	C	011100	34	(28)	2	²	001111	17	(15)
d	D	010010	22	(18)	3	³	000111	7	(7)
e	E	000010	2	(2)	4	⁴	001011	13	(11)
f	F	011010	32	(26)	5	⁵	010011	23	(19)
g	G	110100	64	(52)	6	⁶	011011	33	(27)
h	H	101000	50	(40)	7	⁷	010111	27	(23)
i	I	001100	14	(12)	8	⁸	000011	3	(3)
j	J	010110	26	(22)	9	⁹	110110	66	(54)
k	K	011110	36	(30)	|	_	000101	5	(5)
l	L	100100	44	(36)	space bar		001000	10	(8)
m	M	111000	70	(56)	=	:	001001	11	(9)
n	N	011000	30	(24)	+	/	001101	15	(13)
o	O	110000	60	(48)	color change		010000	20	(16)
p	P	101100	54	(44)	°	)	010001	21	(17)
q	Q	101110	56	(46)	,	(	011001	31	(25)
r	R	010100	24	(20)	-	–	011101	35	(29)
s	S	001010	12	(10)	back space		100011	43	(35)
t	T	100000	40	(32)	tabulation		100101	45	(37)
u	U	001110	16	(14)	carr. return		101001	51	(41)
v	V	111100	74	(60)	stop		110001	61	(49)
w	W	100110	46	(38)	upper case		111001	71	(57)
x	X	111010	72	(58)	lower case		111101	75	(61)
y	Y	101010	52	(42)	nullify		111111	77	(63)
z	Z	100010	42	(34)					

11/4/58

"FL" FLEXOWRITER CODE
Binary Numerical Sequence

Octal Value	Decimal Value	Character 123456	Lower Case	Upper Case
0	(0)	000000	not used	
1	(1)	000001	not used	
2	(2)	000010	e	E
3	(3)	000011	8	
4	(4)	000100	not used	
5	(5)	000101		
6	(6)	000110	a	A
7	(7)	000111	3	
10	(8)	001000	space bar	
11	(9)	001001	=	:
12	(10)	001010	s	S
13	(11)	001011	4	
14	(12)	001100	i	I
15	(13)	001101	+	/
16	(14)	001110	u	U
17	(15)	001111	2	
20	(16)	010000	color change	
21	(17)	010001	.	)
22	(18)	010010	d	D
23	(19)	010011	5	
24	(20)	010100	r	R
25	(21)	010101	l	1
26	(22)	010110	j	J
27	(23)	010111	7	
30	(24)	011000	n	N
31	(25)	011001	.	(
32	(26)	011010	f	F
33	(27)	011011	6	
34	(28)	011100	c	C
35	(29)	011101	-	
36	(30)	011110	k	K
37	(31)	011111	not used	

Octal Value	Decimal Value	Character 123456	Lower Case	Upper Case
40	(32)	100000	t	T
41	(33)	100001	not used	
42	(34)	100010	z	Z
43	(35)	100011	back space	
44	(36)	100100	1	
45	(37)	100101	tabulation	
46	(38)	100110	w	W
47	(39)	111001	not used	
50	(40)	101000	h	H
51	(41)	101001	carr. return	
52	(42)	101010	y	Y
53	(43)	101011	not used	
54	(44)	101100	p	P
55	(45)	101101	not used	
56	(46)	101110	q	Q
57	(47)	101111	not used	
60	(48)	110000	o	O
61	(49)	110001	stop	
62	(50)	110010	b	B
63	(51)	110011	not used	
64	(52)	110100	g	G
65	(53)	110101	not used	
66	(54)	110110	9	
67	(55)	110111	not used	
70	(56)	111000	m	M
71	(57)	111001	upper case	
72	(58)	111010	x	X
73	(59)	111011	not used	
74	(60)	111100	v	V
75	(61)	111101	lower case	
76	(62)	111110	0	
77	(63)	111111	nullify	

11/4/58

TX-0 COMPUTER
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
CAMBRIDGE 39, MASSACHUSETTS

M-5001-3

FLEXOWRITER CODE

June 6, 1963

FLEXOWRITER CODE

Alphanumerical Sequence

Lower Case	Upper Case	Holes 123456	Octal Value	Lower Case	Upper Case	Holes 123456	Octal Value
a	A	000110	6	0	0	111110	76
b	B	110010	62	1	1	010101	25
c	C	011100	34	2	2	001111	17
d	D	010010	22	3	3	000111	7
e	E	000010	2	4	4	001011	13
f	F	011010	32	5	5	010011	23
g	G	110100	64	6	6	011011	33
h	H	101000	50	7	7	010111	27
i	I	001100	14	8	8	000011	3
j	J	010110	26	9	9	110110	66
k	K	011110	36	|	−	000101	5
l	L	100100	44	space bar		001000	10
m	M	111000	70	=	:	001001	11
n	N	011000	30	+	/	001101	15
o	O	110000	60	color change		010000	20
p	P	101100	54	.	)	010001	21
q	Q	101110	56	,	(	011001	31
r	R	010100	24	−	−	011101	35
s	S	001010	12	back space		100011	43
t	T	100000	40	tabulation		100101	45
u	U	001110	16	carr. return		101001	51
v	V	111100	74	stop		110001	61
w	W	100110	46	upper case		111001	71
x	X	111010	72	lower case		111101	75
y	Y	101010	52	nullify		111111	77
z	Z	100010	42				

FLEXOWRITER CODE

Octal Value

Octal Value	Hole 123456	Lower Case	Upper Case	Octal Value	Hole 123456	Lower Case	Upper Case
0	000000	not used	(i)	40	100000	t	T
1	000001	not used	(i)	41	100001	not used	(s)
2	000010	e	E	42	100010	z	Z
3	000011	8	8	43	100011	back space	
4	000100	not used	(i)	44	100100	l	L
5	000101	|	—	45	100101	tabulation	
6	000110	a	A	46	100110	w	W
7	000111	3	3	47	100111	not used	(s)
10	001000	space bar		50	101000	h	H
11	001001	=	:	51	101001	carr. return	
12	001010	s	S	52	101010	y	Y
13	001011	4	4	53	101011	not used	(s)
14	001100	i	I	54	101100	p	P
15	001101	+	/	55	101101	not used	(s)
16	001110	u	U	56	101110	q	Q
17	001111	2	2	57	101111	not used	(s)
20	010000	color change		60	110000	o	O
21	010001	.	)	61	110001	stop	
22	010010	d	D	62	110010	b	B
23	010011	5	5	63	110011	not used	(s)
24	010100	r	R	64	110100	g	G
25	010101	1	1	65	110101	not used	(s)
26	010110	j	J	66	110110	9	9
27	010111	7	7	67	110111	not used	(s)
30	011000	n	N	70	111000	m	M
31	011001	,	(	71	111001	upper case	
32	011010	f	F	72	111010	x	X
33	011011	6	6	73	111011	not used	(i)
34	011100	c	C	74	111100	v	V
35	011101	-	-	75	111101	lower case	
36	011110	k	K	76	111110	0	0
37	011111	not used	(i)	77	111111	nullify	